ABSTRACT

A tire safety system mounts on a vehicle wheel rim inside a pneumatic tire. A tire air pressure sensor produces a tire air pressure reading mounted inside the tire. An inflatable member forms a toroidal expandable internal safety structure. The inflatable member is mounted against the vehicle wheel rim. The chemicals container inside the inflatable member receives an electrical signal at an activation input. The chemicals container creates pressurized gas inside the inflatable member for inflation when a signal is received at the activation input. A circumferential radially expandable protective belt mounted around the inflatable member expands with inflatable member inflation to accommodate operation the tire when expanded. A computer receiving tire air pressure readings from the tire air pressure sensor sends a signal to the activation input upon a sudden change in tire air pressure.